M.R.O. 1—10,006—28-2-50.

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(2) Date of repair

(3) Initials of the Referencer

MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No. ~~B.P. No.~~	1193-94	Press ~~Mis.~~
Dated	3-4-1875	

Not to be folded or roughly handled

PUBLIC WORKS DEPARTMENT,
FORT ST. GEORGE, *30th April* 1875.

No. 704. No. 1,194.

FROM

COLONEL G. W. WALKER, R.E.,
Secretary to the Government of Madras,
Public Works Department,

To

THE SECRETARY TO THE GOVERNMENT OF INDIA,
Public Works Department.

IRRIGATION, No. 72.

SIR,—I am directed by His Excellency the Governor in Council to transmit all the papers connected with the Perryaur Project for development of irrigation in the Madura District at an estimated cost of 60 lakhs of rupees; with a request that they may be referred through the Secretary of State for India to the highest Engineering authorities, with a view to the possible elaboration of some means of damming up the course of the Perryaur river and diverting its waters for the benefit of cultivation which shall be free from the enormous risks that have induced this Government reluctantly to withhold their approval to the measures devised by their own Engineers.

2. The fullest information regarding the project is available from the surveys and plans, &c., of which a list is given with G. O., No. 1,193, of 30th April 1875 with which also are recorded elaborate reports and minutes on the subject.

I have the honor to be,
Sir,
Your most obedient servant,
(Signed) G. W. WALKER, Colonel, R.E.,
Secretary to Government.

Exd. W. J. Lewis.

Spare Copies

Summary of the Perryaur Project Papers.

The first detailed proposal for carrying out the Project of diverting the head waters of the Perryaur River in Travancore into the valley of the Sooroolay and thence to that of the Vigay River in Madura, is contained in the late Major Ryves' Report of the 7th August 1867, which is reviewed in Government Order No. 35-21 of 14th November 1867. The site proposed by him (No. 1) was about 800 yards below the junction of the Chinna and Perya Moollyaur with the Perry-aur, where the bed of the stream was 169 feet below the watershed saddle. His Estimate was

		Lakhs
1.	Preliminary (Plant, Roads and buildings)	0·12
2.	Bund (162½ feet & escape	8·67
3.	Water shed Cutting	3·12
4.	Regulating Reservoirs &c	0·75
5.	Soorooliyar Works	0·80
6.	Distribution of water	4·03
7	Reserve for Contingencies	3·51
	Total - Lakhs	21·00

In G. O. No. 2809 of 3rd September 1868 the services of Lieutenants Pennycuick and Coatter were placed at Coll. Anderson's disposal for further investigation of the Periyaur Project. Major Ryves accompanied the two latter officers to the spot to show them the ground and Lieut. Coatter was afterwards joined by Lieutenant Pennycuick. Their first seasons work resulted in Lieut. Pennycuick's Report

published with G.O. No. 2466 of 28th July
1869, recommending an increase
of height of the bund, and much
more liberal rates; so that
the estimate for the head works
alone would amount to
Rs 32,30,000 - Major Ryves
proposed method of securing
the work while in progress
was also objected to - It con-
-sisted in the use of Syphons
wherewith to pass the River
over the work while operations
went on in its bed, and in
carrying on the earth and
puddle work in front of a
stone dam to protect the surface
from erosion in the freshes.
In lieu of which it was pro-
-posed to raise the bund on the
top of a number of small arches

tum
nyanceths
llusal

through which the stream should pass during construction, after completion of which the arches would be closed by shutters and rapidly filled in with masonry while the water was rising.

Lieutenants Christie and Greer appear to have joined the works in 1869, when Lieutenant Colonel Mullins for the first time inspected the site, and reported that there was yet much to be done for the collection of information before complete plans and estimates could be prepared; especially stating that it was by no means certain that the site selected for the bund was the

only one, or the best available - and he recommended that the River should be surveyed down to the Nellianputty Tavalum, and the levels of the hills and saddles north of the Perryaur ascertained - He stated further that the original site was at the head of a deep pool which extended 1½ or 2 miles down the river (see G.O. No. 2763 of 26th Novr/67).

The result was the selection of sites Nos. 2 and 3 close to one another and the latter only 2000 yards below No. 1 - Of these No. 2 or Captn. Pennycuick's site, seems ultimately to have been preferred by both Officers to No. 3 or Lieutt. Coll. Mullins's site - and it was proposed that a bund 205 feet

high should there be constructed by the silting process, the river freshes being disposed of during its construction through a tunnel cut in the solid rock 45 feet wide, 30 feet high at the sides and 50 feet in the centre, and about 330 yards long exclusive of the open cuttings at each end; the execution of which was supposed to require about 7 Lakhs of Rupees and 4 to 5 years of time. The method of finally closing it is also detailed in Lieutt Col. Mullins's memo published with G. O. No. 1236 of 12th May 1870.

Mr. R. Smith was appointed in April 1870 to complete the investigation of the project, especially

in connection with the distribution of the water below, while Captain Pennycuick worked out the details of the Head works on Sick Leave at home. But these latter when submitted by him were found to be vitiated by his disregard of the instructions given him, and the calculations connected with the Head works had finally to be worked out by Mr. R. Smith. (See G. O. No. 1236 of 4th May 1871).

While engaged in this work with the Officers under his orders Lieutenants Christie, Greer and Rawson, Mr. R. Smith had a further examination made of the water shed and country adjacent to the Goodaloor Ghaut, which resulted in the discovery, and

ultimate adoption of No. 4 or Scott Christie's Dam Site 8 miles lower down the valley than the others, but only 35 feet lower in level, the water shed at the head of the Goodaloor Ghaut being also found 50 feet lower than that in the line of the proposed outfall from sites Nos. 2 and 3.

The relative merits of the projects as finally worked out for Dam Sites Nos. 2, 3 and 4 are summed up in Paras 9 and 10 of Major Oakes's note; with great preponderance in favour of No. 4, where a Dam 168 feet high or 60 feet less than that at No. 2, and estimated to cost 26½ against 32½ Lakhs, would store 250 millions against 200 millions

6

of Cubic yards of water, besides having space available for deposit to the extent of 240 millions, as against 20 millions only.

The Dam is proposed to be composed of Silt throughout; a permanent escape 400 feet long is to be formed at a level of 30 feet below the crest of the dam by cutting down an adjacent saddle about 23 feet in earth, and 14 feet in solid rock; and a temporary escape 420 feet in length, 40 feet wide, with a height of 30 feet of which the upper half is arched, will be bored through the solid rock on the left bank of the River to carry off the flood water during

Section 1064 Sq: Ft:

construction of the Dam. To draw off the water for supply of irrigation in Madura & Tinnevel is proposed through the water shed saddle, 2270 yards in length, taking off from a cutting upwards of a mile in length, with a section and fall sufficient to discharge 1600 cubic feet per second.

The total estimate of the head works amounts to Rs 26,43,000, as follows, viz:-

Temporary Escape Tunnel	Rs 5,63,482	including Rs 48,000 for closing
Reservoir Embankment	5,22,600	
Permanent Escape	1,37,176	
Water shed Tunnel & Regulator	4,34,900	
Silting Dam	41,500	
Road	82,715	19 miles at Rs 4353 per mile
Temporary buildings	49,000	
Tools and Plant	2,19,025	
Travelling Batta	35,000	
Preliminary Investigations	1,10,000	of which Rs 83,168-6-1 already spent.
Labour Collectors	41,000	
Establishment	2,75,000	
Sundries	1,31,602	
	26,43,000	

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	26,43,000
To which add cost of maintenance during construction	19,756
	26,62,756

and the cost of the works in the plains is estimated at

Works for 86 miles above the Periánay anicut	3,09,820
Canals under the Periánay on North bank of the Vigay	22,14,154
Stationery and office furniture	55,950
Maintenance during construction	70,320
	26,50,244
Grand Total Rs	53,13,000

The work on the Hills to be completed in 5 working seasons of 200 days each - requiring 2600 Coolies per diem - Rs 85,000 out of the Rs 1,10,000 allowed for preliminary expenses having

been already laid out Rs 3,00,000 are allowed for collection of Plant, and for the road to the site of the works to be laid out before the actual works commence. And the sums to be provided in the 5 working seasons are put down at

	Above Ghaut	Below Ghaut	
Preliminary	3,85,000		
1st "	4,00,000	———	= 4,00,000
2nd "	5,75,000	5,50,000	= 11,25000
3rd "	4,80,000	6,60,000	= 11,40,000
4 "	3,95,000	7,25,000	= 11,20,000
5 "	4,27,756	7,15,244	= 11,43,000
	26,62,756 +	26,50,244	= 53,13,000

The temporary escape is proposed to be carried out in the first 3 seasons, and not to be closed till the end of the last season for safety of the works in progress. No water can be stored till it is closed, hence none can be supplied

for cultivation - Yet to ensure early return the Channels in the plains must be undertaken from the 2nd season, so as to be finished simultaneously with the Head works - The water shed Tunnel work will be spread over all 5 seasons, but ex-ecuted chiefly in the 2nd, 3rd and 4th - Preliminary work towards the Reservoir Dam having been undertaken in the 2nd and 3rd seasons it is intended to raise the Dam 120 feet high before November of the 4th and to complete it in the 5th; the per-manent weir being commenced in the latter part of the former but the bulk of it carried out in the 5th Season - The material to be used in the Dam is generally

spoken of as silt, but three trenches 6 feet deep cut into the rock from the nullah bed, up to the high water mark of the Reservoir on both sides are to be filled with puddle, to prevent perco-lation between the dam and the rock.

The anticipated returns on a capital of 60 Lakhs (including abatement of assessment on land taken up and interest &ca capitalized) are stated at

4 per cent on the 6th or year after completion
7 3/8 ——— 7th ———
9 3/16 ——— 8th ———
10 ——— 9th ———

subject to decrease if the works take longer to carry out, or if the

land is not taken up so rea-
-dily as Estimated -

Total gross Revenue ex-
-pected to be realized less Rs 1,00,000
for maintenance of work say
Rs 6 Lakhs or 60 Lakhs or
10 per cent - acreage irrigated
93,172 acres -

G.W.W.

Colonel Walker's

Summary 13

papers

on the

Perryaur Project

11-4-88

Not to print

B. N.

GB № 1193 — 30-4/75

10

From the Ch Engr for Irrign H E No 238 d/ 17 April/73 Print

" Resident in Travancore and Cochin, thro' Chief Secy to Govt — No 67 27 Oct/73 Print

Memo by the Chief Engr. Irrn D — Print not dated X

Minute by H.E. the Governor — Print 26 May 1874 —

" by the Hon J. D. Sim C.S.I — Print 4 June 1874

" " W. Robinson C.S.I — Print 26 Jan 1875 (~~date not shown~~) X

~~Note by the Hon R. S. Ellis C.S.I — 15 March /75~~

— H E the Comdr in Chief — Print 7 June /74

Note by the Hon R S Ellis CB — 15 March /75

— by H E the Governor — 6 March /75

— by the Hon J D Sim C S I — 1 Feb /75

11-4-88

[illegible]

G6-x1193 8/30-4/75

Project for the diversion of the Penyaur

General Abstract Estimate of the probable Cost of the Scheme 12

Sections &c	Cost of each section according to Mr. Smith's Estimate	Revised Cost	Remarks
Head Works	2654 900	2644 000	Sum to be capitalized may be left by allotment or assessment of land taken up for the channels see Appendix U U
Works in the valley of the Snrollyaur	321 760	309 820	
Northern Main Channel & Branches	2392 290	2214 154	
Stationery and Office furniture	65 960	55 950	
Maintenance of work during construction	90 000	9076	
	5514 900	5313 000 86 700	
Deduct			
Value of land to be reclaimed	1614 900		
	3900 000	5399 700	

N. F. Baker Major R.E.

8 & 9

...ion of the Periyaur

of the probable Cost of the Scheme

Project for the diversion
of the Periyaur ...

General Abstract
Estimate of the probable
Cost of the Scheme

Project for the diversion of the Periyaur

No. 4 Site

Abstract Estimate of the Cost of the proposed Head Works

	Sections	Cost of each section according to Mr. Smith's estimate Rs	As	P	Revised Cost Rs	As	P	Remarks
1	Escape Tunnel	563481	14	.	563481	14	.	Difference due to omission in original estimate of pitching for top of bank and the provision for silting Reservoir bed from -38 to -10 as soon as bank is completed.
2	Reservoir Embankment	504846	8	.	522600	.	.	
3	Permanent Escape	204176	.	.	* 137176	.	.	* Difference due to Weir being 5 feet higher than proposed less cutting away required
4	Watershed Tunnel and Regulator	430200	.	.	° 434900	.	.	° Due to slight modification in cutting owing to the water level being raised by 5'
5	Silting Dam and Silting Channel &c	41500	.	.	41500	.	.	
6	Road from Gordalore to site of Dam	127000	.	.	* 82715	.	.	* See para 32 of Report
	Temporary Buildings	49000	.	.	49000	.	.	
	Tools plant and Machinery	219025	.	.	219025	.	.	
	Travelling batta for Labourers	35000	.	.	35000	.	.	
	Preliminary investigations and Cost of Establishment to superintend the Construction of the Road &c	110000	.	.	110000	.	.	Rs 85717 expended up to date
	Labour Collectors	41000	.	.	41000	.	.	
	Establishment for 4 years vide Appendix A dated 30th October 1871	191152	.	.	275540	.	.	Establishment required for 5 years see para 61 of Report instead of for 4 years.
	Sundries	136578	10	.	131062	2	.	
		2654900	"	"				
	Deduct							
	Value of 10766 acres of land to be reclaimed from the beds of the tanks enumerated in Appendix B dated 30th October 1871	1614900	.	.				
		1040000			2643000			

R. Drake Major R.E.

11-4-88

Project for the diversion of the Perryaur

No. 4 Site

Abstract Estimate of the cost of the Proposed Head Works

G.O. No 1193 — 30-4/75

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Brought forward Totals	104	103	86	32

39 Appendices &c as per enclosed List —— 40
Note on the Project —— 1
Tracings —— 104
Original Plans including 3 in tracing cloth } 103
Estimates —— 86
Specifications —— 1 —— 32

Total of enclosures 366

Madras
20th January 1873

A. Oakes Major R.E.

36	Do Do Regulating Sluice above the Sekempatty weir	1	1	1	1	
35	Do Do Do Pitamuth Do	1	1	1	1	
34	Do Do Do Kotahar Do	1	1	1	1	
33 to 28	Survey and Longitudinal Sections of the Sorroolyaur from Cumbum Weir to the Vigay	6	6	×1		
	Abstract estimate of North main channel & branches			+1		
	1 General Abstract estimate			+1		
	Contour Survey of proposed Lake	°2	°1			°tracing in 2 Sheets
	1 Sketch Map showing whole Project in one Sheet	1	1			In Case No 3
	Head Works at No 4 Site - ⊕Sheets 1 to 8 and 11	ϕ9	ϕ9	6 1×	1	ϕ In Case No 1 Plans & Tracings + abstract ⊕ Sheets 9 and 10 for open cutting not required
	Alternative scheme for open cutting sheets 9 & 10	ϕ2	ϕ2	ϕ1		ϕ estimate sent but not included in the Project
	Carried over Totals	104	103	86	32	

48	Plan of Surplus Sluice for Natchicolum tank in 7th mile	1	1	1	1	Plans in Case No 7
47	Do. Do. Bridge of 3 arches in 7 mile	1	1	1	1	
46	Do. Do. Surplus Sluice for Ramarajapuram tank in 6th mile	1	1	1	1	
46A	Do. Do. Shutters & gearing for 46 & 48 "	1	1x			x on Tracing cloth
45	Do. Do. On aqueduct in the 3rd "	1	1	1	1	
44	Do. Do. Fall & Bridge Combined in 2nd "	1	1	1	1	
43	Do. Do. Culvert in 1st mile	1	1	1	1	
42	Do. Do. Regulating Sluice 1st "	1	1	1	1	
40 & 41	Do. Do. Head & Under Sluices on Nothern flank of Paramay Weir	2	2	1	1	
39	Do. Paramay Anicut	1	1			
38	Do. Do. Regulating Sluice above Gulliamy Weir in the Vigay	1	1	1	1	
37	Do. Do. Fall adjacent to the Palamparava Weir in Channel from that Work	1	1	1	1	

71	Do Do Head Sluice for 1st class Distribution channels	1	1	1		
70	Do Do Regulating Sluice at Head of Vellragundam Distribution Channel	1	1	1		
69	Do Do Fall in the 35th mile main channel	1	1	1	1	
68	Do Do " of 8 feet in 34. "	1	1	1	1	
67	Do Do " 5 feet in 11th Reach	1	1	1	1	
66	Do Do 6 in 33 mile	1	1	1	1	
65	Do Do Bridge of 1 arch of 18' span	1	1	1	1	
64	Do Do Do 2 arches in 29 mile	1	1	1	1	
63	Do Do Do one Arch in 26 mile	1	1	1	1	
62	Do Do Do Do Do 24 .	1	1	1	1	
61	Do Do Inverted Syphon in 21 "	1	1	1	1	
60	Do Do Aqueduct for conveying main channel under Morangalavan 20 mile	1	1	1	1	
59	Do Do Bridge of 2 arches in 20 mile	1	1	1	1	
58	Do Do Aqueduct to convey main channel under Shattyaur in 20 mile	1	1	1	1	Plans in Case No 7
57	Do Do Occupation Bridge of 3 arches of 20' Span in the 3rd Reach	1	1	1	1	
56	Do Do Head Sluice of 2nd Class Distribution channels	1	1	1		
55	Do Do Outlet Sluice in 12 mile	1	1	1	1	
54	Do Do Inlet Weir " 12 "	1	1	1	1	
53	Do Do Outlet Sluice " 11½ "	1	1	1	1	
52	Do Do Inlet Weir 11½ "	1	1	1		
51	Do Do Outlet Sluice General Plan for drainage of 6 square miles & under	1	1	1		
50	Do Do Inlet Weir Do Do	1	1	1	1	
49	Do Do Outlet Sluice in 11 mile for supply of Iyengar tank	1	×1	1		× on Tracing cloth only
49 A	Do Do Inlet weir to pass Do Do	1	×1	1		

Statement of Plans &c to accompany the Report on the Perryaur Project

No. of Sheet	Names	Drawings	Plans	Estimates	Specifications	Remarks
1 to 13	Survey, Longitudinal and transversal	13	13	12		* Abstract
1A	Sections of the North Main Channel	1	o/	1*		° alternative line estimated for No 1 not required
84	Survey and Sections of the 1st branch channel	1	1	1		
85	" " 2nd " "	1	1	1		
86	" " 3rd " "	1	1	1		
87 & 88	" " 4th " "	2	2	1		
89	" " 5th " "	1	1	1		
90	" " 6th & 7th " "	1	1	1		Plans in Case No 3
91	" " 8th " "	1	1	1		
92 to 95	" " 9th " "	4	4	1		
96 to 98	" " 10th	3	3	1		
99	" " 11th	1	1	1		
100	" " 12th	1	1	1		
				1*		
83	Plan of a Regulator at the head of the subsidiary branch channels	1	1	1		
82	Do Do Drainage Culvert	1	1	1		
81	Do Do Irrigation Sluice for plots not exceeding 50 acres	1	1	1		
80	Do Do for plots from 50 to 100 "	1	1	1		
79	Do Do " " " 100 to 200 "	1	1	1		
78	Do Do " " " 200 to 300 "	1	1	1		
77	Do Do Head Sluice for minor distribution channels	1	1	1		
76½	Do Do of a Drop of 6 feet up to 15 feet in length	1	1	1	1	
76	Do Do " " above 15	1	1	1	1	
75	Do Do Road tunnel of 1 Vent of 8' Span for 2nd Class District Roads	1	1	1		
74	Do Do 2 vents of 8' span for do do	1	1	1		
73	Do Do of 1 Vent of 8' span for Main Roads	1	1	1		
72	Do Do 2 vents of 8' span for do	1	1	1		Plans in Case No 7

List of Enclosures
to Accompany Re-
-port on Perryaur
Project

Enclosures

Appendices

A — Statement showing the discharge of the Periyaur at No. 1 Site

B — Table showing the surface level of the Lake & the discharge of the temporary escape Tunnel at No. 4 Site during a great flood similar to that of the 17th & 18th November 1869.

B — Statement showing height to which water would actually have risen in the Season of 1869/70 during the flood in November

C — Table showing the discharge of the Periyaur adjacent to No. 4 Site

D — Table showing the Capacity of the Reservoir at No. 4 Site and the area of its surface at various levels

E — Table showing the surface level of the Lake and the discharge of the permanent escape No. 4 Site during a great flood similar to that of the 17th & 18th November 1869

F — Statement showing work proposed for execution and the daily number of effective labourers required in the Hill tract during each working Season

FFF — Do — Do — Do — Do — revised

FF — Do — Do — Abstract for — Do

G — Estimate of the Probable sum required for Machinery Tools and Plant

H — Statement showing the discharge of the Periyaur from July/69 to October

I — Statement showing the probable sum that will be required annually for the management & conservation of the several works

II — Do — Do — Do — revised

K — Abstract Statement of Cultivation and Revenue derived from the tract of the Country shown on the Sketch map from the Officer in Charge of the Periyaur investigations as commanded by the proposed channels on the North of the Vigay River

KK — Abstract — of — Do — Do — Do

L — Copy of a Letter from the Acting Collector of Madura regarding the average amount likely to be realized per acre, by the sale of the lands in the beds of Tanks

M — Average amount of compensation to be paid per acre for the land required for the Periyaur Channels and Subsidiary works

MM — Subsequent letter from Collector on the above subject

N — Copies of correspondence regarding the difference between the value of dry and wet lands and also certain rates to be fixed for single and double crop lands

O — Copy of Letter No. 1999 of 15th October 1872 from Acg Collector of Madura regarding the Assessment to be levied for single and double crops supplied from the Periyaur works

Q — Statement showing the anticipated annual expenditure how the Capital has been calculated and how the returns have been estimated

S — Statement showing fall of Soorooliyaur River bed

T — Statement of the anicuts in the Vygaree and Soorooliyaur with information relative to them

U — Statement showing the area of land to be taken up for the main and branch channels from the Vygay and the Compensation to be paid for it

UU — Statement showing the amount to be capitalized on account of abatement of assessment on land taken up for the main & branch channels from the Vygay

V — Statement showing the quantity of water to be carried by the North main channel and its branches

W — Circular Memorandum on allowance of water for small areas

Y — Table of the average monthly and annual Rainfall at seven stations in the districts, adjacent to the catchment basin of the Periyaur

BB — Statement showing the acreage in the beds of the Tanks proposed to be reclaimed on the North of the Vygay and the villages in which they are situated.

133
22

CC — Statement showing the probable monthly state of the Periyaur Reservoir in a season similar to 1869-70.

Z — Do — Do — Do — for 1869/70 Revised

Z, — Do — Do — Do — for 1870/71.

Z₂ — Do — Do — Do — for 1871/72.

DD — Statement showing the estimated annual Cost of the establishment necessary for the Periyaur Project if sufficient labor can be obtained to complete the works in five years

DDD — Do — Do — Do — Do — Revised.

HH — Statement showing the actual quantity of water available for irrigation in the plains of Madura.

Memorandum by Mr. Smith on the Project for the diversion of the Periyaur No 2 Site and works in the Plains dated 30th October 1871.

Memorandum by Mr. Smith on the Head works proposed for No 4 Site dated 15th April 1872.

R — Memorandum by Major Oakes on the Works in the Plains

Madras
18 January
1873

R. F. Oakes Major
R.E.

11-4-88

Project for the diversion
of the Perryaur

G.O. No 1193-30-4/75

List of
Appendices

Statement shewing the annual outlay incurred on the preliminary investigation of the Perryaur Project

	Madura Range			Dindigul Range			Establishment Dindigul			Total			Remarks
1866-67	248	"	9	"	"	"	"	"	"	248	"	9	
1867-68	199	15	5	"	"	"	"	"	"	199	15	5	
1868-69	"	"	"	6129	6	"	9544	11	10	15,674	1	10	
1869-70	504	.	.	8695	8	3	8351	13	1	17,451	5	4	
1870-71	1040	14	10	10,000 / 4,338	" / 15	" / 5	459	.	"	15,838	14	3	
1871-72	"	"	"	8,565	6	9	33,334	10	5	41,900	1	2	
April to December 1872	"	"	"	"	"	"	10,376	8	5	10,376	8	5	
	2,192	15	"	37,629	4	5	62,066	11	9	101,888	15	2	
							Deduct Rs			16,129	6	"	Chargeable to Local
										85,759	9	2	
							Deduct also Rs			2,591	3	1	Vide correction entry made in the month of January 1873 in accordance with instructions conveyed in G.O. No 2535, dated 29th October 1872.
										83,168	6	1	

Office of the Controller of Public Works Accounts
Madras 9 August 1873.

10,376-8-5
2,591-3-1
7,785-5-4

Offg. Controller of P.W. Accounts

11-4-87

Enclosure in a letter
from the Offg. Controller
of P.W. Accounts to the
Secretary to Govern-
ment P.W. Depart-
ment dated 9 August
1873 No. 2833

P.W. 4450/73.

G.O. No. 1193 - 30-4/75

[illegible]

After several years of careful investigation, during which all the sites on the Perryaur available for the construction of a dam to turn the waters of the upper part of that river into the Madura District have been fully examined,

examined, a project has been matured, providing for all the works necessary to irrigate with Perryaur water a considerable tract of Country in Madura, and is now submitted for the consideration of Government.

2 The care and attention which have been bestowed upon this scheme by several Officers in succession, afford reasonable ground for believing that the very considerable engineering difficulties, which it presents, have been adequately provided for in the works as now designed

designed, and in the arrangements for their execution which are detailed in the papers accompanying the estimates.

3 The project contemplates the irrigation of, in round numbers about 1,55,000 acres of first and second crop land, in the proportion of three fifths of the former and two fifths of the latter, and the estimates, including establishments, maintenance of works during construction,

cost of preliminary inves-
-tigations, and all as-
-certainable charges con-
-nected with the scheme
amount to 53,99,700 Rs
or nearly 54 lacs. The
probable Revenue returns
which may be expected
from the outlay have been
calculated on information
obtained from the Collector
of Madura, and they
amount, as shewn in
para 82 of Major Oakes'
note to a gross revenue,
derived principally from
water rates of Rupees 6
for first and Rupees 3
for second crop irrigation,
of Rupees 6,94,015 or

12.8 percent on the esti-
-mates. This Officer
also shews, in Appendix
Q, what the net returns
on the accumulated
Capital, after deducting
1 lac from the gross reve-
-nue for maintenance
may be estimated to be
in each year from that
succeeding the completion
of the works; which,
unlike those confined
exclusively to the plains,
will not come even
partially into operation
until the whole, or at
any rate all but possibly
some portion of the minor
distribution works, have
been

been completed. The accu-
-mulated Capital includes
interest on the outlay from
year to year, and it is
shewn that by the time
the project may be expected
to yield a clear return of
4 percent, this capital
will approximate to 60
lacs of Rupees.

4 These papers
will be communicated to
the Revenue Board through
the Revenue Department,
in order that the Revenue
considerations involved
may be fully examined
into, and reported upon.
It should be clearly explained,
assuming the water supply

to

27

to be sufficient for the area mentioned in para 3 above, what the returns would be on the one hand if a water rate be imposed, and on the other hand if the lands be assessed as nunjah, while in the former case the grounds on which the water rates for both first and second crops may be determined should be fully set forth - It is moreover of great importance that the Government should be correctly advised as to the probability or otherwise of

of the water being promptly taken up for irrigation, when made available, and the Revenue Board should therefore make special enquiries on this point, and should show on what data the conclusions, which may be arrived at, have been based.

5 His Excellency the Governor in Council has much pleasure in noticing the very complete manner in which the investigations connected with this great and difficult project have been carried out by Mr R. Smith

26

Smith, and the able assistance rendered to that Officer by Lieutenants Greer and Christie, the latter having been employed during the earlier examinations, and the former during nearly the whole time of the preparation of the scheme.- To Captain Pennycuick and Lieutenant Coaker, who rendered good service in the examination of the sites at first selected, and who prepared the way for subsequent investigations, much of the credit

credit appertaining to the successful working out of the project is due—Other Officers have at different times contributed to the solution of the problem involved in ascertaining whether it be feasible to divert water, having its natural outfall on the Western Coast, to the plains of Madura on the Eastern side of the mountains, but it is not necessary to do more here than acknowledge the good service rendered by those who have been engaged in working out the project

in

in detail.

6 During the interval that must necessarily elapse before the report of the Revenue Board on the Revenue, or financial features of the scheme can be prepared, the Government would wish, with reference to the remarks contained in paras 6 and 9 of the note by the Chief Engineer for Irrigation, for additional information as to the nature of the soil available for the formation of the proposed

proposed dam on the
Perryaur by silting;
and as to the position
of the nearest Villages
below the dam site
which could possibly
be injured by the acci-
-dental breaching of the
embankment during
its construction Mr
R. Smith will be able probably
to afford the necessary
particulars regarding
the soil; and, if it
differs materially from
that used by Mr. Mc
Ivor on the bund across
the Poorthy Nullah
on the Neilgherries, it
may be advisable

to

to ascertain by a special examination and analysis whether the Perryaur soil con-tains a sufficient proportion of dense clay to make it pro-bable that a bund formed with it will possess, in an equal degree, the remarkable properties of the Poorthy dam - Lieutenant Greer will be instructed, when the right season of the year comes round, to make enquiries on the spot with re-gard to the second point

point referred to, and having ascertained what Villages, if any, are situated on the margin of the river, while its course conti-nues to run through mountainous Country, he should visit them and see whether their level above maximum floods in the river is such as to remove all apprehension of danger.

Wy. 22/4/73

[illegible]

Cancell

P. W. D. 32

Proceedings of the Madras Government,

Under date the 187 .

Read the following :—

The Chief Engineer D.P.W. states his inability to ~~recommend~~ this scheme for Execution in its present shape ~~on the grounds~~ 1st of want of sufficient Experience of the material which it is proposed to use for the Dam, viz sifted Earth in quantity upwards of 2 millions of Cubic Yards, and in height 170 feet; and of the amount of labour and time required for depositing such material. Whereof it appears to be a Condition essential to the success of the work that

on the grounds which are fully stated in his note

I pass the D. ff as altered, ~~[illegible]~~ (except para 3, which I am inclined to omit)

[illegible]

9/3

[illegible]

6.12

upwards of one-half the quantity, or more than a million of Cubic yards, shall be raised to a height of 95 feet within 42 days - 2nd. Of the uncertainty of success in closing the tem-porary Escape tunnel by either of the Expedients suggested by Major Oakes or Lieut Coll: Mullins within a limited maximum period of 43 days; as appears to be ~~an~~ equally essential ~~Element of success~~.

2. Were these costly Experi-ments to be carried out under the most favorable circum-stances, in a healthy access-ible situation such as the Neilgherries, where the labour supply and means of super-vising it could be reckoned on with certainty, the greatness of the results aimed at, might

perhaps justify His Excellency the Governor in Council in over-ruling the objections stated, and in recommending the acceptance even of so considerable a risk as that which would thus be incurred. But as the case stands he is unable to ~~[illegible]~~ accept the responsibility.

3. He must ~~accordingly remit to higher authority, the task of further dealing with the papers submitted, with the~~ expression of his regret that so much pains and money should have been expended in preliminary researches without practical result. A misfortune which would appear to have been owing to the Office of Chief Engineer for Irrigation having been held by 3 different Officers during the period

I should be inclined to omit this para 3 ff

I don't quite understand this proposal & submit the matter to higher authority = to whom? I think the Gov. shd dispose of the matter without further reference. Now say "H.E. in C. determines to let the whole scheme lie over for the present"

I would [illegible] & say here that he agrees generally with the views expressed by the Ch. Eng. as to the causes of this failure

of the investigations; and
to want of previous knowledge
of the locality on their part
and on that of the Officers
employed, which does not
appear to have been remedied
by the issue of general
instructions on the one hand;
or by individual exertions
on the other till a late date.
It cannot be too strongly
insisted on for the future
that elaboration of details
of such projects shall
always be preceded by
thorough scientific investi-
-gation of the scene of
operations.]

5 ~~The verification of the
Revenue calculations, and
the consideration of the
project from a Revenue
point of view, may be
postponed~~ for the present

I think it might
be well to omit
para 3. altogether
[illegible]
22/5

4. As regards further action in the matter His Excellency in Council is unwilling that so grand a project should be abandoned without a ~~further~~ renewed attempt to turn to account the science, labor, and money that have been expended upon it. And he resolves accordingly to transmit all the papers connected with it to the Secretary of State for India, through the Govt. of India, with a request that they may be submitted to the highest Engineering authorities, ~~at home~~ available; in order that the enquiries suggested in para 6 of Col. Walker's Memorandum may be made with the greatest prospect of success.

available advantage
being taken of

H.E. in Council thinks it very desirable that this reference should not be limited to professional Engineers in England if, as is probable, works on a large scale, similar to the proposed Tevvgar project, have been carried out in other countries of Europe or in America.

5. [With reference also to the concluding ~~[illegible]~~ suggestions of that Memorandum, ideas similar to which appear to have occurred to the present District Engineer of Madura, it will be remitted to the Chief Engineer for Irrigation for ~~future~~ careful inquiry, when the services of a qualified Officer are available, whether a considerable portion of the waters of the Upper Perryaur and its tributaries may not be diverted by an intercepting channel, and ~~turned~~ turning these by a tunnel or cutting through the lowest Saddle into ~~the~~ valley of the Vigay River; there to be utilized with or without storing reservoirs

In the mean time the attention of the Chief Engineer for Irrigation will be directed to the suggestion contained ~~in~~ at the end of Col Walkers Memorandum and he will be instructed to ~~commence~~ ~~lose no time in giving~~ make all the necessary arrangements for ~~in~~ investigating ~~what may be described as an alternative Project~~ the alternative proposal of ~~bringing~~ diverting

in

in augmentation of existing supply. It is possible that the results aimed at by the project as at present laid out may to a very great extent be realized with less cost, more facility of execution, and greater certainty, by such a scheme; whereby the work to be performed in the more inaccessible and unhealthy tract of country above Ghant would be reduced to a minimum, and the construction of such storage reservoirs as may be feasible, freed from the chief elements of uncertainty and danger.

6. The verification of the Revenue calculations,

and

H.E. in Council is anxious that no time should be lost in ~~commencing the investigation~~ the preparation of this alternative project and directs that a qualified officer be at once selected for this work. H.E. in Council relies upon the Chief Engineer for Irrigation taking an active part in the direction of the Enquiry & giving by his presence on the spot, as often as may be necessary, the fullest assistance ~~in the preparation of the project~~ to the officer in charge

of the original project
and ~~the~~ Consideration of the
project from a Revenue
point of view, may be post-
-poned for the present.]

11-4-88

G.N.W.

will be taken up by
a Revenue Officer
to be selected by
the Bd. of Revenue
under instructions
from that Dept.

G.N.W.

~~It is understood~~

Seerujan Project

The Honble
R. S. Ellis C.B.

H. E. the Governor
18.3.75

[illegible]

For Con[illegible]
29.3.75

R.W.

GO. No. 1193 — 30-4/75

Recd 9-3-75
C. 2.3.75 R. 9.3.75

Statement of Plans &c. to accompany the Report on the Perryaur Project.

No of Sheet	Names	Plans.
1 – 13	Survey, longitudinal and transverse	13
1. A.	Sections of the north main channel	1
84	Survey & Sections of the 1st branch channel	1
85	do 2d do	1
86	do 3d do	1
87 & 88	do 4th do	2
89	do 5th do	1
90	do 6th & 7th do	1
91	do 8th do	1
92 to 95	do 9th do	4
96 to 98	do 10th do	3
99	do 11th do	1
100	do 12th do	1
83	Plan of Regulator at the head of the subsidiary branch channels	1
82	do drainage culvert	1
81	do Irrigation Sluice for plots not exceeding 50 acres	1
80	do for plots from 50 to 100 acres	1
79	do do do 100 to 200 do	1
78	do do do 200 to 300 do	1
77	do head Sluice for minor distribution channels	1
76½	do of a Drop of 6 feet up to 15 feet in length	1
76	do do do above 15	1
75	do road tunnel of 1 vent of 8 feet span for 2d Class district roads	1

74	Plan of Regulating 2 vents of 8 ft span for 2nd class dist. roads	1
73	do do 1 vent of 8 ft span for main roads	1
72	do do 2 vents of 8 ft span for do	1
71	do do head sluice for 1st class distribution channels	1
70	do do regulating sluice at head of Vellagundam distribution channel	1
69	do do fall in the 35th mile, main channel	1
68	do do do of 8 ft in 34th mile, main channel	1
67	do do do of 5 ft in 11th reach	1
66	do do do 6 in 33rd mile	1
65	do do bridge of 1 arch of 18 feet span	1
64	do do do of 2 arches in 29th mile	1
63	do do do of 1 arch in 26 mile	1
62	do do do do 24 mile	1
61	do do inverted syphon in 21st mile	1
60	do do aqueduct for conveying main channel under Morangahaven, 20th mile	1
59	do do bridge of 2 arches in 20th mile	1
58	do do aqueduct to convey main channel under Shattyaur in 20th mile	1
57	do do occupation bridge of 3 arches of 20 ft. span in the 3rd reach	1
56	do do head sluice of 2nd class distribution chan[nel]	1
55	do do outlet sluice in 12th mile	1
54	do do inlet weir in 12 mile	1
53	do do outlet sluice in 11th mile	1
52	do do inlet weir, 11th mile	1

51.	Plan of Regulator outlet Sluice general plan for drainage of 6 square miles and under.	1
50	do do inlet weir do do	1
49	do do outlet Sluice in 11th mile for supply of Iyengar tank.	1
49 A.	do do inlet weir to pass do do	1
48	Plan of Surplus Sluice for Notchicolum tank in 7th mile.	1
47	do do bridge of 3 arches in 5th mile	1
46	Plan of Surplus Sluice for Ramavarapuram tank in 6th mile.	1
46. A.	do do Shutters & gearing for 46 & 48 mile	1
45	do do an aqueduct in the 3rd mile	1
44	do do fall and bridge combined in 2nd mile	1
42	do do Regulating Sluice 1st mile	1
43	do do culvert in 1st mile	1
40 & 41	do do head & under Sluices on northern flank of Paranay weir.	2
39	do do Paranay anicut	1
38	do do regulating Sluice above Gullianur weir in the Vigay	1
37	do do fall adjacent to the Palampavara weir in channel round that work	1
36	do do regulating Sluice above the Seliempatty weir.	1
35	do do Aotamuth do	1
34	do do Kotahar do	1
	Contour Survey of proposed Lake	1

37

J.C.

J.C

J.C

1 Sketch Map showing whole project in 1 Sheet	1
Head works at No. 2 Site. Sheets 1 to 8 x 0	9
~~39 Appendices &c as per enclosed List~~	~~40~~
Note on the project	1
Tracings	104
Original plans, including 3 on tracing cloth	10[illegible]
Estimates	86
Specification	32

Total of Enclosures.

no plan [illegible]

Statement of Plans, &c., to accompany the Report on the Perryaur Project.

No. of Sheet.	Names.	Tracings.	Plans.	Estimates	Specifications.	Remarks.
				RS.		
1 to 13	Survey, longitudinal and transverse	13	13	12	...	* Alternative line estimated for No. 1 — ; not required.
1A	Sections of the north main channel	1	1*	1†	...	† Abstract.
84	Survey and Sections of the 1st branch channel:	1	1	1	...	
85	Do. do. 2nd ,, ,, ...	1	1	1	...	
86	Do. do. 3rd ,, ,, ...	1	1	1	...	
87 & 88	Do. do. 4th ,, ,, ...	2	2	1	...	
89	Do. do. 5th ,, ,, ...	1	1	1	...	Plans in case No. 3.
90	Do. do. 6th & 7th ,, ,, ...	1	1	1	...	
91	Do. do. 8th ,, ,, ...	1	1	1	...	
92 to 95	Do. do. 9th ,, ,, ...	4	4	1	...	
96 to 98	Do. do. 10th ,, ,, ...	3	3	1	...	
99	Do. do. 11th ,, ,, ...	1	1	1	...	
100	Do. do. 12th ,, ,, ...	1	1	1	...	
		...	...	1†	...	
83	Plan of Regulator at the head of the subsidiary branch channels.	1	1	1	...	
82	Do. do. drainage culvert	1	1	1	...	
81	Do. do. Irrigation sluice for plots not exceeding 50 acres.	1	1	1	...	
80	Do. do. for plots from 50 to 100 acres.	1	1	1	...	
79	Do. do. do. do. 100 to 200 ,,	1	1	1	...	
78	Do. do. do. do. 200 to 300 ,,	1	1	1	...	
77	Do. do. head sluice for minor distribution channels.	1	1	1	...	
76½	Do. do. of a drop of 6 feet up to 15 feet in length.	1	1	1	1	
76	Do. do. do. do. above 15 ...	1	1	1	1	
75	Do. do. road tunnel of 1 vent of 8 feet span for 2nd-class district roads.	1	1	1	...	
74	Do. do. 2 vents of 8 feet span for do. do.	1	1	1	...	
73	Do. do. of 1 vent of 8 feet span for main roads.	1	1	1	...	
72	Do. do. 2 vents of 8 feet span for do.	1	1	1	...	
71	Do. do. head sluice for 1st-class distribution channels.	1	1	1	...	
70	Do. do. regulating sluice at head of Velliagundam distribution channel.	1	1	1	...	
69	Do. do. fall in the 35th mile, main channel.	1	1	1	1	
68	Do. do. do. of 8 feet in 34 mile, main channel	1	1	1	1	
67	Do. do. do. of 5 feet in 11th reach ...	1	1	1	1	Plans in case No. 7.
66	Do. do. do. of 6 in 33rd mile.	1	1	1	1	
65	Do. do. bridge of 1 arch of 18 feet span.	1	1	1	1	
64	Do. do. do. of 2 arches in 29th mile.	1	1	1	1	
63	Do. do. do. of 1 arch in 26th mile.	1	1	1	1	
62	Do. do. do. do. do. 24th ,,	1	1	1	1	
61	Do. do. inverted syphon in 21st mile...	1	1	1	1	
60	Do. do. aqueduct for conveying main channel under Morangahaven, 20th mile.	1	1	1	1	
59	Do. do. bridge of 2 arches in 20th mile.	1	1	1	1	
58	Do. do. aqueduct to convey main channel under Shattyaur in 20th mile.	1	1	1	1	
57	Do. do. occupation bridge of 3 arches of 20 feet span in the 3rd reach.	:	1	1	...	
56	Do. do. head sluice of 2nd-class distribution channels.	1	1	1	1	
55	Do. do. outlet sluice in 12th mile ...	1	1	1	...	
54	Do. do. inlet weir in 12th mile ...	1	1	1	1	
53	Do. do. outlet sluice in 11th mile ...	1	1	1	...	
52	Do. do. inlet weir, 11th mile.	1	1	1	...	
51	Do. do. outlet sluice general plan for drainage of 6 square miles and under.	1	1‡	1	1	‡ On Tracing cloth only.
50	Do. do. inlet weir do. do. ...	1	1	1	...	
49	Do. do. outlet sluice in 11th mile for supply of Iyengar tank.		‡			
49A	Do. do. inlet weir to pass do. do...	1	1	1	...	
48	Plan of Surplus sluice for Notchicolum tank in 7th mile.	1	1	1	1	
47	Do. do. bridge of 3 arches in 7th mile.	1	1	1	1	

Estimates required in the Notes by [illegible]

Perryaur Project

Plans & tracings No. 9 & 10 stated not to be required and should therefore be retained in Office. Plans & tracings No. 28 to 33 — Survey &c. of the Sooralliyaur to the Vigay — are not entered in the printed list & perhaps they ought not to be sent to the Government of India.

20/4/75 D.P.

39

Given to Vialatoorai for custody 20/4/75 D.P.

Statement of Plans, &c., to accompany the Report on the Perryaur Project.—(Concluded.)

No. of Sheet.	Names.	Tracings.	Plans.	Estimates.	Specifications.	Remarks.
				RS.		
46	Plan of Surplus sluice for Ramavajapuram tank in 6th mile.	1	1	1	1	
46A	Do. do. shutters and gearing for 46th and 48th mile.	1	1*	...	...	* On Tracing cloth.
45	Do. do. an aqueduct in the 3rd mile ...	1	1	1	1	
44	Do. do. fall and bridge combined in 2nd mile.	1	1	1	1	Plans in case No. 7.
43	Do. do. culvert in 1st mile	1	1	1	1	
42	Do. do. regulating sluice, 1st mile ...	1	1	1	1	
40 & 41	Do. do. head and under sluices on northern flank of Paranay weir.	2	2	1	1	
39	Do. do. Paranay anicut	1	1	...	...	
38	Do. do. regulating sluice above Gullianur weir in the Vigay.	1	1	1	1	
37	Do. do. fall adjacent to the Palamparara weir in channel round that work.	1	1	1	1	
36	Do. do. regulating sluice above the Seliemputty weir.	1	1	1	1	
35	Do. do. do. Ootamuth do. ...	1	1	1	1	
34	Do. do. do. Kotahar do. ...	1	1	1	1	
				1*	...	
85 to 38	Survey and Longitudinal Sections of the Sonoohyaur from Cumbum weir to the Vigay.	6	6	...	...	
	Abstract estimate of north main channel and branches.	...	...	1*	...	
	1 General Abstract Estimate	—	...	1*	...	
	Contour Survey of proposed lake...	2†	1†	...	...	† Tracing in 2 Sheets.
	1 Sketch Map showing whole project in one sheet.	1	1	...	...	In case No. 3.
	Head works at No. 4 site. ‡ Sheets 1 to 8 and 11.	9§	9§	6 1‖	1	§ In case No. 1. Plans and Tracings. ‖ Abstract. ‡ Sheets 9 and 10 for open cutting not required.
	Alternative Scheme for open cutting. ‡ Sheets ‡9 and 10.	2¶	2¶	1¶	...	¶ Estimate sent but not included in the project.
	39 Appendices, &c., as per enclosed list 40	...	...	...	...	
	Note on the project 1	...	...	...	...	
	Tracings 104	...	...	...	...	
	Original plans, including 3 on tracing cloth... 103	...	...	...	...	
	Estimates 86	...	...	...	...	
	Specification 32	...	...	...	...	
	Total of Enclosures ... 366					

(Sigend) R. F. OAKES, Major, R.E.

MADRAS,

20th January 1873.

List of Plans ~~&c~~ relating to the Perryaur Project which have been made over to the ~~Librarian~~ Irrigation Dept.

41

1. Sheet No 34 - Plan. Sections & Elevation of the Regulating sluice proposed for construction on the left bank of of the Soorallayaur adjacent to the Kalahar weir -

2. Sheet No 35 - do — do — do — do — on the right bank of do — ~~above~~ immediately above the Cotaumthe weir -

3. Sheet No 38 - do — do — do — do immediately above the Gullaroon weir -

4. " " 37 - Plan. Sections & Elevation of the fall proposed for construction adjacent to the Paliamparoon weir -

5. " " 36 - do — do — do — of the Regulating sluice proposed for construction on the left bank of the Soorallayaur above the Seliampetty weir -

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6. " " 48 - Plan Section & Elevation of the Surplus Sluice ~~at~~ proposed for construction in the embankment ~~of the~~ on the Natchicoolam Tank

7. " " 50 - Northern Main channel - General plan of inlet weirs to admit the drainage from Catchment basins not exceeding 6 sq. miles -

8 - Sheet No. 57 - General plan of the occupation bridges proposed for construction in the 3rd reach of the Northern main channel -

9 - " - " - 49A Plan of inlet for supply of Iyengar Tank.

10 - " - " - 49 - Do — outlet for — do — do —

11 - " - " - 83 - General plan of the Regulators proposed for construction at the head of the subsidiary branch channel -

12 - " - " - 82 - General plan of drainage culverts proposed for construction in connection with main distribution channels -

13 - " - " - 81 - do — of Irrigation sluices for plots not exceeding 50 acres -

14 - " - " - 80 - do — of Irrigation sluices for areas from 50 to 100 acres -

15 - " - " - 79 - do — do — from 100 to 200 acres -

16 - " - " - 78 - do — do — from 200 to 300 — " —

17 - " - " - 77 - do - of sluices proposed for construction at the heads of minor distribution channel for areas from 500 to 1000 acres -

18 - " - " - 76½ - do - for over falls in branch channels with crest up to 10 ft in length -

19 - " - " - 76 - do for falls of 6 ft in the main distribution channel -

20 - " - " - 75 - do - of Road tunnels proposed for construction over 2nd Class distribution channels in the line of 2nd Class Dt. Roads -

21 - " - " - 74 - do — do — 1st Class — do do

22 - " - " - 73 - do — do — 2nd " — in line of Trunk Road No. 1 —

73

23- Sheet No 72- General plan for Road Tunnels proposed for construction over 1st Class distribution channels in line of Trunk Roads 2-

24- " " 71- do - of Head Sluices for distribution channels taking off from 188 to 288 C.ft per second.

25 " " 70 Plan, elevation & Section of the Sluice proposed for construction at the head of the Velliagondum distribution channel-

26 " " 69- Northern Main Channel- Plan, Elevation & Section of the Fall proposed for construction in the 35th Mile-

27 " " 68 - do - do - of the Fall & Bridge combined proposed for construction in the 34th Mile-

28 " " 67 - do - Genl plan of the Falls of 6 ft in the 11th reach

29 " " 66 - do - Plan, Sections & Elevation of the 6 ft falls proposed for construction in the 33d Mile-

30 " " 65 - do - do - do - do - of the bridge - do - in the 32d Mile-

31 " " 64 - do - do - do - do - in the 29th Mile

32 " " 63 - do - do - do - do - in the 26 Mile

33 " " 62 - do - do - do - do - in the 21st Mile

34 " " 61 Northern Main Channel - Plan & Section of the Inverted Syphon in the 21st Mile-

35 - Sheet No 60. Northern main channel. Plan Section & Elevation of the Aqueduct & Culvert combined proposed for construction at the Manangalian

36 — " — " 59 — do — Bridge proposed for construction in the 24th mile -

37 " " 58 — do — Aqueduct & Culvert combined proposed for construction in the Shattyar in the 20th mile -

38 " " 56 General plan of No. Sluices for distribution channels taking off from 42 to 94 c.ft. per second.

39 " " 55 Northern main channel - Plan Section & Elevation of the outlet sluice proposed for construction in the 12th mile -

40 " " 54 — do — — do do do - of inlet weir — do — across the Augay Ankanniary

41 " " 53 — do — do do do — of outlet sluice — do — in the 10th mile -

42 " " 52 — do — General plan of inlet weir to admit the drainage from catchment basin not exceeding 9 sqr miles -

43 " " 57 - — do — do — do — not exceeding 6 sqr miles -

44 " " 47 — do — Plan, Section & Elevation of the bridge proposed for construction in the 7th mile -

45 " " 46 Plan Section & Elevation of the Surplus Sluice proposed for construction in the embankment of the Ramarajapooram Tank

46 " " 46A. Plan of proposed shutter & raising & holding gear for sluices No 46 & 48 -

47 - Sheet No 45 - Northern main channel - Plan & Sections of the aqueduct proposed for construction in the 3rd mile -

48 - Sheet No 44 - do of the fall & bridge combined do in the 2nd mile

49 - " 43 - do - of the culvert do in the 1st mile of the main channel from the Paramay Anicut

50 - " 42 - do - of sluices to regulate the discharge of the existing & proposed chanls. from the do

51 - " 41 - Proposed Hd. & under sluices at the do

52 - " 40 - Plan & sections of the - do - proposed for construction at the - do -

53 - " 39 - Plan of the Paramay Anicut showing the positions of the proposed Hd. & under Sluices -

54 - Sketch Map showing the sites proposed for the Head Works, the Valleys of the Soorallyaur & Vigay & the alignment of the distribution channels in the plains of Madura.

55 - Sheet No 88 - Survey & Sections of the 4th Branch channel (2nd Sheet)

56 - " - 89 - do - 5th - do - from the Northern main line

57 - " - 90 - do - 6 & 7th - do - from - do -

58 - " - 91 - do - 8th - do - from - do -

59 - " - 92 - do - 9th - do - from - do -

60 - " - 93 - do - 9th - do - from - do (2nd Sheet)

61 - Sheet No 94 - Survey & Sections of the 9th Branch Channel (3rd Sheet)
62 .. .. 95 —— do —— 9th —— do —— (4th Sheet)
63 .. .. 96 —— do —— 10th —— do ——
64 .. .. 97 —— do —— 10th —— do —— (2nd Sheet)
65 .. .. 98 —— do —— 10th —— do —— (3rd Sheet)
66 .. .. 99 —— do —— 11th —— do ——
67 .. .. 100 —— do —— 12th —— do ——
68 to 78 } 11 Transverse & Longitudinal Sections.
79 ~~Sketch~~
to accompany Sheet No 1A } Northern Main Channel - Longitudinal Section -
80 - Survey Longitudinal & Transverse Sections of the Northern Main Channel ——— }
81 ——— do ——— do ——— do - (Sheet 2)
82 - Sheet No 84 - Survey & Sections of the North Branch Channel from the Northern Main line - ——— }
83 — " — 85 — do — of the 2nd Branch Channel from —— do —— }
84 — " — 86 — do — 3rd — do — do —
85 - " — 87 — do — 4th — do — do —

86 .. 9 Project for the diversion of the Perryaur Head works No 4 Site - Plan & Section of the Regulator designed in connection with the Water Shed cutting Sheet No 1 (with one tracing)

44

87- Sheet No 10 - Perryaur Head Works - Site No 4 -
Water shed cutting Regulator
Sheet No 2 - (with one tracing)

88 - — " — 28 - Project for the diversion of the Perryaur Survey & Longitudinal Section of the Soorallyaur from near the foot of the Chimma-balluy hill to the Vyay - (with one tracing)

89 — " — 29 Survey of the Soorallyaur, Sheet No 2
90 — " — 30 — do — " " 3
91 — " — 31 — do — " " 4
92 — " — 32 — do — " " 5
93 — " — 33 — do — " " 6

D.W.H
26/6/75

Original Contours Plan of the Project given by Mr Hawkins to Mr Smith D.E. Nellore - This plan could not be found when the project was submitted to the Govt. of India -

D.W.H
29/9/75

Both plans & tracings of the works connected with the Periyar Project have been submitted & instructions are solicited as to whether the plans or the tracings or both plans & tracings should be sent to the Govt. of India.

10/5

R.P.

Send the Plans, keep the Tracings

Govt

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As required by Office Memo of the 27th May all plans &c in this office connected with the Periyar Project have been entered in a list and made over to the Office of the Chief Engr. for Irrigation - before submission of the project to the Government of India instructions were issued by Colonel Walker to send the plans to the Govt. of India & attach the tracings in office which was accordingly done on the 18th May 1875

9/6/75 To Colonel J. Mullins

Public Works Department.

PROCEEDINGS of the MADRAS GOVERNMENT. 147

Under date the

READ the following:—

From Major R. F. Oakes R.E. A.E. No 28 d/20 Jany/73.
" Ch Engr for Irrign — " — 238 d/17 April /73. — No 694
" Resident in Travancore & Cochin, thro Ch Secy to Govt — 28 - d/27 Oct/73 — No 693
Memo by Chief Engr Irr D — No 695
Minute by H.E. the Governor — 26 May 1874 — 696
" Hon J D Sim C.S.I — 4 June 1874 — 697
" Hon W. Robinson C.S.I — 26 Jan 1875 — 698
" H.E. the Com: in Chief — 17 June 1874 — 699
Note by Hon R. S. Ellis C.B — 15 March 1875 — 700
" H.E. the Governor — 6 March 1875 — 701
" Hon. J. D. Sim C.S.I — 1st Feb: 1875 — 702

WR 23/3

[illegible]

R.S.E

WR 23/3

The Chief Engineer, Irr Dr states his inability, on grounds which are fully stated in his note, to recommend this scheme for execution in its present shape.

2. Were these costly proposals to be carried out under the most favorable circumstances, in a healthy accessible situation such as the Neilgherries where the labour supply and means of supervising it could be

reckoned on with certainty, the greatness of the results aimed at, might perhaps justify His Excellency the Governor in Council in over-ruling the objections stated, and in recommending the acceptance even of so considerable a risk as that which would thus be incurred. But as the case stands he is unable to accept the responsibility.

3. As regards further action in the matter His Excellency in Council is unwilling that so grand a project should be abandoned without an attempt to turn to account the science, labour, and money that have been expended upon it. And he resolves accordingly

65

to transmit all the papers connected with it to the Secretary of State for India, through the Government of India, with a request that they may be submitted to the highest Engineering authorities available; in order that the inquiries suggested in para 6 of Colonel Walker's Memorandum may be made with the greatest prospect of success. His Excellency in Council thinks it very desirable that this reference should not be limited to professional Engineers in England if, as is probable works on a large scale, similar to the proposed Perryaur Project, have been carried out in other countries of Europe or in America.

Para. 4. In the meantime the attention

of

of the Chief Engineer for Irrigation will be directed to the suggestion contained at the end of Colonel Walker's Memorandum; and he will be instructed to make all the necessary arrangements for investigating the alterna-tive proposal of diverting a considerable portion of the waters of the Upper Perryaur and its tributaries by an in-tercepting channel, and turning these by a tunnel or cutting through the lowest saddle into the Valley of the Vigay River; there to be utilized with or without storing reservoirs in augmentation of existing supply. It is possible that the results aimed at, by the project as at present laid out may to a very

great

great Extent be realized with less cost, more facility of Execution, and greater certainty, by such a scheme; whereby the work to be performed in the more inaccessible and unhealthy tract of country above Ghaut would be reduced to a minimum, and the construction of such storage reservoirs as may be feasible, freed from the chief elements of uncertainty and danger.

His Excellency in Council is anxious that no time should be lost in the preparation of this alternative project and directs that a qualified Officer be at once selected for this work. His Excellency in Council relies upon the Chief Engineer for Irrigation taking an active part in the direction of the Enquiry and giving by his

his presence on the spot, as often as may be necessary, the fullest assistance to the Officer in charge.

5. The verification of the Revenue calculations of the original project, and its consideration from a Revenue point of view will be taken up by a Revenue Officer to be selected by the Board of Revenue under instructions from that Dept.

G.N.W.

The Chief Engr. for Irr.n ✓
" Revenue Dept. ✓
" Dist. Eng. Madura ✓
" Resident in Travancore & Cochin. ✓
" Political Dept. ✓

only sign l. & desp. 10-5-75.
Share copies despd. 12-5-75.

Periyaur Proj...

For Council
... 8/4/75

6/4/75

As the proj... including ... Plan and ... of Levels, ... go home, ... the Sect. of ... the ... must be take... that they ... complete, acc... -ding to ... Orders ...

G.N.W.
29.3. ...

50

Letter from the Resident in Travencore & Cochin d/ 27 Oct /73. No ~~97~~ 96 on the question of the remuneration to be given to Travencore, for the use, in carrying out the Perryaur project, of the land & water belonging to the State

Forwarded to complete the file on the subject of the Perryaur project now in circulation.

Ootacamund
7th November
1873.

[illegible] Col RE
Secy to Govt.
PWD

Public Works 1875 - Dept

No. 1193. .

Proceedings of the
Madras Government

Dated 30th April 1875.

No. 692 C/704.

GO No 1193 d/30-4-75

GO No. 1193 d/30-4-75

51

No 1194 of 30th April 1875

To

The Secretary to the
Govt. of India
P.W.D.

Sir,

I am directed by His Excellency the Govern[or] in Council to transmit all the papers connected with the Perryaur Project for development of Irrigation in the Madura District at an estimated cost of 60 Lakhs of Rupees with a request that they may be referred through

Seen
WM
07/4

the Secretary of State
for India to the highest
Engineering authorities,
with a view to the possible
elaboration of some
means of damming
up the course of the
Perryaur river and di-
-verting its waters for the
benefit of cultivation
which shall be free
from the enormous risks
that have induced this
Government reluctantly
to withhold their approval
to the measures devised
by their own Engineers.

The fullest informa-
-tion

information regarding
the Project is available
from the Surveys and
Plans &c. of which a list
is given with G.O. No. 1193
of 30th April 1875 with
which also are recorded
elaborate Reports and
Minutes on the Subject.

G.M.W.

60 copies of 1193 despatch 18/5/75

Despd. 13-5-75 with plans*
as per list annexed & 90 cops.*
of G.O. 1193 of 1875.

* Sent to Calcutta with request to be
wired to Simla 14-5-75

35 copies sent & 60 more×
will follow. × (being printed)

14 Nov/69 ... 2521
" 2nd Sept/68 — " 2809
" 28 July/69 — " 659-660
~~" 12 May/70 " 183-184~~
" 26 Nov/69 — " 530-531
" 8 Apl/70 — " 122-123
" 12 May — " 183-184
" 9 Nov — " 149-151
" 6 May/71 — " 71-72
" 28 Mar — " 659-658
" 29 — " — " 681-682

29-1-95 ✓ 11-2-[illegible]

13-8-04

1193-94
2-4-25

P. W. D

Original